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14<sup>th</sup> July 2013

Dear Secretariat,

**Re: Consultation Regulation Impact Statement (CRIS)  
for reducing emissions from wood heaters, April 2013**

I submit the comments I forwarded to the meeting held in Launceston on 11<sup>th</sup> June 2013 which discussed this CRIS and which I was unable to attend.

Wood heater emissions are very relevant to Tasmania, and especially in cold inland valleys like the Tamar Valley in which Launceston is situated. The CRIS document contains a lot of important information about wood heater emissions and associated costs and a list of strategies to reduce wood smoke over the next 20 years.

I found it interesting that the authors identified the high cost in \$ attributable to the adverse effects from wood smoke. The costs may even be higher than those quoted in the report from other information I have received. Be that as it may, the report predicted that annual emissions would fall by 5,000 tonnes (12%) over the next 20 years, as older heaters are replaced by newer ones (which are supposedly less polluting and operator-independent). I also note that the reduction is predicted to fall from between 3% & 18% per year, depending on which of the 9 options are undertaken. The strictest option is to create a national regulatory body and to regulate that wood heaters meet emission standards of under 1.5 g/kg.

I wonder why the 9 options offered to reduce wood smoke do not include a complete ban on the new installation of wood heaters. I say this because I agree with a key statement made in the document. In the Executive Summary, the 3<sup>rd</sup> paragraph states: "As poor wood heater operation is usually the main reason for excessive emissions, improvement in technology may be appropriate to ensure emissions are less dependent on operator skill". From my reading of information provided by Prof John Todd about the science of wood combustion in wood heaters and from meeting many people over the years who are keen users of wood heaters, I have formed the view that even an old wood heater used optimally is better than a new wood heater used incorrectly. I have heard many stories about people using new wood heaters incorrectly, including devising ways to shut the air inlet (contrary to the manufacturer's design) to slow down the overnight burn and also burning waste in the heaters.

Another reason to consider a complete ban on new installations is this following assertion. In my opinion, if every home in the Tamar Valley used a wood heater,

and if this was a modern one which meets current emission standards, and if each wood heater was operated optimally, then I believe there would be a higher concentration of wood smoke in the winter in the Tamar Valley than exists at present. This follows from the inherent high output of particles which are emitted during the initial start-up and with the addition of each new log (albeit less than at start-up). If all these emissions are trapped low in the winter inversions that we see, then they will affect the health of residents of the Valley. I believe that the main reason that the particle pollution has fallen in the Tamar Valley in recent years is because of the reduced numbers of wood heaters in use rather than any improvements in their operation (even though the latter may have improved also). This was predicted by modeling made by the CSIRO which estimated that the NEPM limit for PM10 of 50  $\mu\text{g}/\text{m}^3$  would be reached when total usage in the valley fell to 5,000 wood heaters and that the PM2.5 limit of 25  $\mu\text{g}/\text{m}^3$  would be reached when the numbers fell to 2,000 wood heaters.

From the above, it follows that the major reductions in wood smoke emissions have resulted from a switch to alternative home heating in the winter, and there are statistics which show an increased uptake of electric heating over the same period of time. A minority of households in the Tamar Valley (and in other populated inland valleys in Australia) are responsible for the wood smoke which disperses through the entire air shed and which affects everyone's health and which can be measured as a high cost in \$, as quoted in the CRIS.

The technology exists at present for very low emission combustion of wood via pellet heaters, whose emissions are below 1 g/kg and with negligible start-up emissions. My vote would be to permit these to be used, but to restrict the new installations of wood-heaters. For the latter, I would favour the tightest regulation possible (eg Option 9 in the CRIS, with emissions below 1.5 g/kg) together with a fee payable to the regulatory body akin to a "polluter's tax" to act as a deterrent and to help offset some of the costs of the regulatory body (which would not be needed if wood heaters were banned). I would also recommend setting a target reduction in wood smoke emissions with a review of the policy in 5 years, keeping open the option of a complete ban on new wood heater installations if appropriate particle levels have not been reached by then.

Thank you for the opportunity to comment on this important matter. I will post a signed copy of this submission.

Yours sincerely,

Dr James Markos